# Providing Access to Healthcare Information Resources using Internet Gopher Technology as a Part of a State-Wide Medical Information Network

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*An Internet healthcare information resources Gopher server is described as a part of a state-wide medical information network. The development of the server and its design and operation are presented. The potential impact of this technology on the healthcare delivery process and issues associated with the use of public domain information resources are discussed.*

## INTRODUCTION

This poster describes the development of a healthcare information resources Gopher which provides access to healthcare information resources publicly available on the Internet. This application is a part of a larger on-going BlueCross BlueShield of Alabama project to develop a comprehensive state-wide electronic healthcare medical information system for use by the physician community in the State of Alabama.

The goal of this project was to identify potential healthcare information resources and to provide a facility for easy-to-use, friendly access to these resources. The underlying assumption of this effort was that timely access to accurate and up-to-date information will improve the healthcare delivery process. Not only will medical decision-making be enhanced, but patterns of practice can be improved and better patient education provided.

## DEVELOPMENT PROCESS

The Internet is a world-wide network of computer networks connected by common protocols and gateways [1]. It is estimated that the Internet is comprised of over two million computer hosts serving over fifteen million users. It is a vast collection of information resources which can be accessed via a variety of communication services. The facilities for browsing and locating information on the Internet have been primitive in the past. A service called the Internet Gopher originated three years ago at the Computer and Information Services Department of the University of Minnesota and is commonly called 'the user interface to the Internet.' It was designed to provide quick and easy access to the information resources of the Internet, particularly for the casual computer user [2].

The Healthcare Information Resources Gopher Project has involved developing and deploying a Gopher server which provides physicians and healthcare practitioners with easy-to-use, friendly access to healthcare information resources on the Internet. While the focus was on healthcare information resources, other information resources were also made available (e.g. a collection of desk references).

The process of developing this application included the following tasks: tool selection; resource identification; menu design; server customization; client selection; user training; and project evaluation. Menu design and implementation was based upon a conceptual model of the information needs of the tasks comprising the healthcare delivery process. Information resources were matched to these tasks based upon the information needs of the task. Client software packages including several Windows-based Gopher and World-Wide Web browsers (e.g. MOSAIC) were provided. User training consisted of two one-day, hands-on seminars for physicians and healthcare practitioners and provided a general overview of Internet resources, services, and tools with examples drawn from the healthcare domain. While the formal project evaluation has not been completed, a preliminary subjective evaluation has been done and was quite favorable.

## IMPACT

The Healthcare Information Resources Gopher Project extends the model of facilitating information access in a hospital setting to the ambulatory care setting, especially to those physicians in rural communities. The Internet is a valuable information resource for community physicians who are isolated from relevant information stores and are basically information "poor". Clinical information systems of the future will automatically link electronic medical literature relevant to a patient's diagnosis and a particular therapy [3]. Duke University Medical Center researchers have prototyped such a system. Internet Gopher technology was used to link medical resources with automated patient care plans [4]. This work is related to ongoing research in the area of information filtering being done by the group for Studies in Information Filtering of Electronic Resources at UAB, of which the work reported in this paper is one aspect.

## ISSUES

Utilizing public information resources to support the healthcare delivery process presents a number of challenges, such as: control over Internet resources, network operational delays, client connection/software availability, access to subscription or fee-based services, information quality, and menu navigation.

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